

IN THE CLAIMS

1. (Currently Amended) A method, comprising:
transmitting a signal having an AC component to a subscriber line;
receiving at least a portion of the transmitted signal from the subscriber line;
determining at least a portion of a period of the AC component based on the received
signal and further calculating a squared value of the AC component over the
determined portion of the period; and
performing a function of a line card in response to determining at least the portion of the
period of the AC component.
2. (Previously presented) The method of claim 1, wherein the signal is a ringing
signal and wherein performing the function includes at least one of performing ring-trip
detection and performing AC-fault detection.
3. (Cancelled.)
4. (Previously presented) The method of claim 1, wherein determining at least the
portion of the period includes utilizing the zero crossing technique to determine the period of the
AC component.

5. (Original) A method, comprising:

transmitting a signal having at least one of an AC component and a DC component to a subscriber line;

receiving at least a portion of the transmitted signal from the subscriber line;

filtering the DC component from the received signal;

determining a value proportional to a power of the AC component of the received signal over at least a portion of a period of the AC component; and

performing a function of a line card in response to determining the value proportional to the power of the AC component.

6. (Previously presented) The method of claim 5, wherein determining the value proportional to the power of the AC component includes calculating a squared value of the AC component for at least the portion of the period.

7. (Original) The method of claim 6, wherein determining at least a portion of a period includes determining at least the portion of the period using zero crossing.

8. (Original) The method of claim 6, wherein the squared value of the AC component is calculated until the squared value is at least equal to a threshold value.

9. (Original) The method of claim 5, wherein the signal is a ringing signal and wherein performing the function includes performing ring-trip detection.

10. (Original) The method of claim 5, wherein the signal is a fault detection signal and wherein performing the function includes performing AC-fault detection.

11. (Currently Amended) An apparatus, comprising:

circuitry capable of:

transmitting a signal having an AC component to a subscriber line; and

receiving at least a portion of the transmitted signal from the subscriber line;

a digital signal processor capable of determining at least a portion of a period of the AC

component based on the received signal and of calculating a squared value of the

AC component over the determined portion of the period; and

the circuitry further capable of performing a function of a line card in response to

determining at least the portion of the period of the AC component.

12. (Previously presented) The apparatus of claim 11, wherein the signal is a ringing signal and wherein the circuitry capable of performing the function includes the fault detection circuitry capable of performing ring-trip detection.

13. (Previously presented) The apparatus of claim 11, wherein the signal is a fault detection signal and wherein the circuitry capable of performing the function includes the fault detection circuitry capable of performing AC-fault detection.

14. (Previously presented) The apparatus of claim 11, wherein the digital signal processor capable of determining at least a portion of a period includes the digital signal processor capable of determining the period using zero crossing.

15. (Previously presented) An apparatus, comprising:

circuitry capable of:

transmitting a signal having at least one of an AC component and a DC component to a subscriber line; and

receiving at least a portion of the transmitted signal from the subscriber line;

a filter capable of filtering the DC component from the received signal;

a digital signal processor capable of determining a value proportional to a power of the AC component of the received signal over at least a portion of a period of the AC component; and

the circuitry further capable of performing a function of a line card in response to determining the value proportional to the power of the AC component.

16. (Previously presented) The apparatus of claim 15, wherein the digital signal processor capable of determining the value proportional to the power of the AC component includes the digital signal processor capable of calculating a squared value of the AC component for at least the portion of the period.

17. (Original) The apparatus of claim 15, wherein the squared value is computed until it is at least equal to a threshold value.

18. (Original) The apparatus of claim 16, wherein determining at least the portion of the period includes determining at least the portion of the period using zero crossing.

19. (Original) The apparatus of claim 15, wherein the signal is a ringing signal and wherein performing the function includes performing ring-trip detection.

20. (Original) The apparatus of claim 15, wherein the signal is a fault detection signal and wherein performing the function includes performing AC-fault detection.

21. (Previously presented) A line card, comprising:

a subscriber line interface circuit capable of:

transmitting a signal having at least one of an AC component and a DC component to a subscriber line; and

receiving at least a portion of the transmitted signal from the subscriber line;

a filter capable of filtering the DC component from the received signal;

a digital signal processor capable of determining a value proportional to a power of the

AC component of the received signal over at least a portion of a period of the AC component; and

the subscriber line interface circuit further capable of performing a function of a line card

in response to determining the value proportional to the power of the AC component.

22. (Original) The line card of claim 21, wherein the subscriber line interface circuit is a voltage subscriber line interface circuit.

23. (Previously presented) The line card of claim 21, wherein the digital signal processor capable of determining the value proportional to the power of the AC component includes the digital signal processor capable of calculating a squared value of the AC component for at least the portion of the period.

24. (Original) The apparatus of claim 21, wherein the signal is a ringing signal and wherein performing the function includes performing ring-trip detection.

25. (Original) The apparatus of claim 21, wherein the signal is a fault detection signal and wherein performing the function includes performing AC-fault detection.

26. (Currently Amended) An apparatus, comprising:
means for transmitting a signal having an AC component to a subscriber line;
means for receiving at least a portion of the transmitted signal from the subscriber line;
means for determining at least a portion of a period of the AC component based on the
received signal and for calculating a squared value of the AC component over the
determined portion of the period; and
means for performing a function of a line card in response to determining at least the
portion of the period of the AC component.

27. (Currently Amended) The method of claim 31, wherein the AC component represents AC current, and wherein calculating the squared value comprises calculating the squared value of AC the current.

28. (Previously presented) The method of claim 5, wherein the AC component represents AC current, wherein determining the value proportional to the power comprises determining a squared value of the AC current.

29. (Cancelled.)

30. (Previously presented) The method of claim 16, wherein the AC component represents AC current, wherein calculating the squared value comprises calculating the squared value of the AC current.